

WHAT IS CLAIMED IS:

1. A noise canceling circuit, comprising:
 - a first source terminal;
 - 5 a second source terminal;
 - a reference voltage generation means for generating a reference voltage;
 - a bias current generation means for generating a bias current determining an operating current;
 - 10 an error amplifier means for amplifying an error voltage for said reference voltage, said error amplifier means containing at least one phase compensation capacitor;
 - a voltage-current output means for generating an output of a power circuit; and
 - 15 an output voltage-dividing means for detecting a fluctuation of the output voltage, wherein:
 - a first input terminal of said error amplifier means is connected to said reference voltage generation means; a second input terminal of the error amplifier means is connected to said output voltage-dividing means; said error amplifier means comprises an input part consisting of a pair of the 1-type semiconductor elements and a load part consisting of a pair of the 2-type semiconductor elements; a noise suppression part consisting of a pair of the 1-type semiconductor elements is disposed between said input part and said load part; one terminal of the noise suppression part is connected to said first source terminal; a substrate terminal of the noise suppression part is connected to said second source terminal;

and a pair of components of the noise suppression part is fabricated in different dimension to control the source voltage dependency of the output voltage.

- 5 2. A noise canceling circuit according to Claim 1 or 2, comprising:
 - a first source terminal;
 - a second source terminal;
 - a reference voltage generation means for generat-
 - 10 ing a reference voltage;
 - a bias current generation means for generating a bias current determining an operating current;
 - an error amplifier means for amplifying an error voltage for said reference voltage, said error ampli-
 - 15 fier means containing at least one phase compensation capacitor;
 - a voltage-current output means for generating an output of a power circuit;
 - an output voltage-dividing means for detecting a
 - 20 fluctuation of the output voltage; and
 - a canceling signal generation means containing at least one capacitance different from said phase compensation capacitor, wherein:
 - said capacitance is connected to said output volt-
 - 25 age-dividing circuit and the first source terminal or a circuit node changing with the same phase as the potential of the first source terminal; a first input terminal of said error amplifier means is connected to said reference voltage generation means; a second in-
 - 30 put terminal of the error amplifier means is connected to said output voltage-dividing means; said canceling

signal generation means voltage-divides a noise signal by the capacitance and the resistance component of the output voltage-dividing means, and advances the phase of the noise signal; said error amplifier means comprises an input part consisting of a pair of the 1-type semiconductor elements and a load part consisting of a pair of the 2-type semiconductor elements; a noise suppression part consisting of a pair of the 1-type semiconductor elements is disposed between said input part and said load part; one terminal of the noise suppression part is connected to said first power supply; and a pair of components of the noise suppression part is fabricated in different dimension to control the source voltage dependency of the output voltage.

3. A noise canceling circuit according to Claim 1 or 2, wherein the absolute values of a voltage dependency coefficient of the output voltage from the reference voltage generation means and the error amplifier means are -60dB or less for a power voltage change of 1V, the difference between the absolute values of the power voltage is -80dB or less, and the polarity of the power voltage dependency coefficient of the reference voltage generation means is opposite to the polarity of the power voltage dependency coefficient of the error amplifier means.

4. A noise canceling circuit according to any of Claims 1 - 3, wherein a capacitance value of a capacitance of the canceling signal generation circuit is a

subtle capacitance of 0.1pF - 0.001pF

5. A noise canceling circuit according to any of Claims 1 - 4, wherein the bias current generation circuit is omitted, and the reference voltage generation circuit also serves as the bias current generation circuit.